

The preparation of teachers for multigrade teaching

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Abstract

A large proportion of teachers throughout the world teach in multigrade classrooms, or classes with more than one grade level. It is reliably predicted that the number of multigrade classes will increase in the future. This paper addresses the issue of teacher education for multigrade. The main thesis of this paper is that the professional knowledge and skills that are relevant and necessary to teaching effectively in single-grade contexts are also relevant and necessary for effective multigrade teaching. However, many of these skills need to be given a specific multigrade emphasis in the context of the preparation of teachers for multigrade teaching. This does not necessitate separate teacher education programmes for multigrade teachers. The paper makes comparisons between multigrade and single-grade teaching in terms of outcomes and teaching practices and highlights the importance of effective teacher education programmes that cater for the needs of teachers in a broad rather than a narrow sense. The content of programmes aimed at the specific preparation of multigrade teachers are examined, and a categorisation of specific areas of content that need particular emphasis in the context of teacher education for multigrade is provided.

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1. Introduction

Multigrade teaching is prevalent in most educational systems throughout the world (e.g., HMI 1978; Mason & Stimson, 1996; Pietila, 1978; Veenman, Voeten, & Lem, 1987) and the number of schools with multigrade classes is increasing. A multigrade class¹ is a class comprised of two or

more grade levels for which one teacher is given responsibility (Knight, 1938; Mason & Burns, 1997; Mason & Doepner, 1998; Mason & Good, 1998; Russell, Rowe, & Hill, 1998; Veenman, 1995). Children in multigrade classes usually retain their grade designation and their grade-specific textbooks and curricula. Accordingly, the multigrade teacher is usually required to teach several grade-specific programmes in a range of subject areas in the same time that is available to the single-grade teacher to teach one set of programmes to one grade level. Schools with multigrade classes are generally found in remote, usually rural, areas where school enrolment figures are not perceived to justify the appointment of one teacher for each grade level. However, fluctuating pupil numbers often result in

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¹Multigrade classes must be distinguished from “multi-age” classes. Multi-age classes are mixed-age classes in which traditional grade designations so not apply. Multi-age teaching is considered by its proponents to be more developmentally appropriate than single-grade or multigrade teaching (American Association of School Administrators, 1992; Bredekamp, 1990; Privett, 1996) and therefore more preferable (Hargreaves, 2001).

the creation of multigrade classes (usually two-grade classes) in large, primarily single-grade, schools in urban and suburban settings.

Information on the incidence of multigrade teaching is difficult to find and is often out-of-date. In many countries data on multigrade teaching is not systematically collected (Bergman, 2002; Little, 1996; Maia, 2002). However, the information that is available points to a relatively high incidence of multigrade teaching. Table 1 gives an indication of the extent of multigrade teaching in many parts of the more developed world including Europe, Canada, and Australia.

In developing countries, multigrade teaching plays a significant part in efforts to improve the quality of educational provision in rural communities (Little, 2001; Veenman, 1995). Multigrade classes are prevalent in many parts of Asia, Latin America (Aikman & Pridmore, 2001; Hargreaves, Montero, Chau, Sibli, & Thanh, 2001) and Africa and their numbers are likely to increase as efforts are made by international agencies to provide primary education on a wider scale, especially in remote rural areas (UNESCO, 2002). In Peru, 78% of public primary schools were multigrade in 1998 (Hargreaves et al., 2001), in 1994, 84% of schools in India had multigrade classes (Gupta, Jain, & Bala, 1996) and in 1984, 26% of all Zambian schools were one-teacher schools (Lungwangwa, 1989). Multigrade classes appear to be less common in the USA (as little as 3% in some states) than in most other

parts of the world (Mason & Stimson, 1996). As the number of multigrade classes increases throughout the world, especially in developing countries, there is an obvious need to ensure that the structures and supports, which are necessary to ensure that quality teaching can and does occur in this context, are provided.

It is commonly stated in the literature that multigrade teaching is more difficult than single-grade teaching (e.g., Mason & Burns, 1995, 1996; Mason & Doepner, 1998; Veenman, 1995; Veenman & Raemaekers, 1995). While this may be true in most cases, there are clearly some single-grade settings that are just as challenging, or more challenging, for teachers than some multigrade settings. For example, a single-grade teacher with a large, widely heterogeneous class, in a poorly resourced school is likely to find the teaching task more difficult than would a teacher in a small multigrade class with adequate resources and support structures. Multigrade teaching, therefore, can be more or less difficult depending on the context in which it occurs. One of the greatest challenges for the multigrade teacher is the requirement to teach several grade levels in their multigrade class in the same time that is available to the single-grade teacher to teach one grade level (Mulryan-Kyne, 2005).

This paper addresses the issue of teacher education for multigrade. Given the relatively high incidence of multigrade classes in most countries,

Table 1
Examples of the prevalence of multigrade teaching

Country	Source of information	Prevalence of multigrade
England	Pridmore (2004)	25.4% of primary classes had two or more grade levels
Netherlands	Commissie Evaluatie Basisonderwijs (1994)	53% of teachers taught multigrade classes
Ireland	Department of Education and Science (DES) (2003)	40% of primary classes had two or more grade levels
Scotland	Scottish Executive (2004)	33% of all classes were multigrade classes
Finland	Armi (2002)	32.4% of primary classes were multigrade classes
Norway	Eurydice (2002)	42% of primary schools had multigrade classes
Austria	Nösterer (1991), Eurydice (2002)	25% of primary schools are one-, two-, or three-room schools
Greece	Faragoulataki (2002)	31% of primary classes are multigrade with three or more grade levels
Czech Republic	Brozove (2002)	35% of primary schools are multigrade
Switzerland	Poglia and Strittmatter (1983)	23% of all classes at primary level are multigrade
Germany	Knörzer (1985)	80,000 pupils attend schools with multigrade classes
Sweden	Little (1996), Malmros and Sahlin (1992)	35% of schools had multigrade classes during the school year 1987–88
Australia	King and Young (1996)	In 1990, 34% of schools had fewer than 100 pupils, creating the need for multigrade classes
Canada	Gayfer (1991)	One in seven classrooms is a multigrade classroom

a significant proportion of teachers are needed to teach in this setting. They need to be prepared to do so. The main thesis of this paper is that the professional knowledge and skills that are relevant and necessary to teaching effectively in single-grade contexts are also relevant and necessary for effective multigrade teaching (Miller, 1991; Phillips, Watson, & Willie, 1995; Pratt & Treacy, 1986; Thomas & Shaw, 1992). However, many of these skills need heightened emphasis in the context of the preparation of teachers for multigrade teaching. There are specific skills and competencies that are more particular to each context, but the differences are more in emphasis than in nature and do not justify separate teacher education programmes for multigrade and single-grade teachers. By focusing on general teaching skills and competencies in the context of initial teacher education, and supporting students in making applications of these skills and competencies to specific teaching contexts, including multigrade, teachers can be prepared to be adaptable and flexible as well as competent.

The paper begins with an examination of research findings on multigrade teaching. Comparisons are made between multigrade and single-grade classes in terms of outcomes and teaching practices. The importance of effective teacher education in both contexts is highlighted. Current concerns about the quality of teacher education are addressed along with current perspectives on teacher education. The need for ongoing teacher education and support is emphasised. The content of programmes aimed at the specific preparation of multigrade teachers are examined. Based on this material, a categorisation of specific areas of content that need particular emphasis in the context of teacher education for multigrade is provided.

2. Research on multigrade teaching

The literature on multigrade teaching is relatively sparse, some of it anecdotal in nature and/or of poor quality (Mason, Burns, Colwell, & Armesto, 1993). Definitional confusion often compounds the problem. Nevertheless, it is possible to identify several studies that can bear scrutiny in terms of their quality (Veenman, 1995, 1997). The findings of these studies provide interesting insights into life in multigrade classrooms and the needs of aspiring and practicing multigrade teachers. Most studies focus on the cognitive and non-cognitive outcomes of children in multigrade classes compared with their

single-grade counterparts. Some studies also provide some information about the teaching practices of multigrade teachers.

2.1. Cognitive and non-cognitive outcomes in multigrade and single-grade classrooms

Mason and Burns (1997) and Veenman (1995) conducted exhaustive reviews of the research on multigrade teaching from a wide range of countries². From his review and his later meta-analysis, Veenman (1995, 1996) reported no differences in cognitive and non-cognitive outcomes between the single-grade and multigrade settings. Mason and Burn's (1997) review showed similar findings, as did the work of Galton and Patrick (1990) in the British context.

This finding may seem surprising given the common perception that multigrade teaching is more difficult than single-grade teaching. However, research has shown that it is the quality of teaching rather than grade configuration or class composition that is the most powerful determinant of the quality of pupil learning (e.g., Ferguson, 1991; Greenwald, Hedges, & Laine, 1996; Sanders & Rivers, 1996; Wenglinsky, 2000; Wright et al., 1997). In a study which attempted to measure the relative magnitude of teacher effects while, at the same time, considering the effects of intraclassroom heterogeneity, the achievement level of students, and class size on academic growth, Wright et al. (1997) found that the two most important factors affecting student gain were the teacher and the student achievement level. The heterogeneity of the class did not emerge as a main effect and did not interact with other factors in influencing the academic growth of students, and class size was not found to be a significant factor. These findings are reflected in the findings of previous research (e.g., Kulik, 1992; Rogers & Kimpston, 1992; Sanders & Rivers, 1996; Slavin, 1987). Teaching, then, can be effective or ineffective in single-grade or multigrade classes. Class composition, by itself, is not the most powerful determinant of successful teaching and learning. Changes and/or

²In their review, Mason and Burns (1997) report on the findings of 17 studies on cognitive outcomes in the multigrade setting and Veenman (1995) reports on the findings of 45 such studies in his best evidence synthesis. Mason and Burns reviewed 6 studies and Veenman reviewed 19 studies on non-cognitive outcomes in this area. The reviewed studies were conducted in the USA, Canada, and Europe (12 countries in total).

improvements in classroom practice ultimately rely on teachers (Borko, 2004; Fullan & Miles, 1992; Spillane, 1999). Educational policies, and curriculum are interpreted by teachers, and the education received by children in the classroom is influenced strongly both by the way in which they are interpreted and by the skills and abilities of the teacher (Clark, 1995; Hill & Rowe, 1996).

2.2. *Teaching practices in multigrade and single-grade classes*

There is some evidence to suggest that, although the quality of teaching in multigrade classes can be high, teaching practices in multigrade classes are frequently far from ideal. Findings from the PRISM study in the UK (Galton & Patrick, 1990) concluded that small schools with multigrade classes do not appear to be maximising on their advantage in terms of small class size. Similar findings emerged from the ESG Small Schools Curriculum Enhancement Programme (the SCENE project) (Galton, Hargreaves, & Comber, 1998). From his extensive review of the international research on multigrade and multi-age teaching, and his later meta-analysis of this research, Veenman (1995, 1997) concurs that many teachers are not maximising on the opportunities provided by the multigrade context. For example, teaching all grade levels together is common and there is little evidence that effective teaching approaches (e.g., peer tutoring, across grade grouping), that are associated with positive learning outcomes, and that are easier to implement in multigrade classes, are being used by most multigrade teachers. Similar findings emerged from Mason and Burn's (1997) review of the multigrade teaching research.

As in the case of multigrade teaching, research evidence suggests that many single-grade teachers frequently do not manifest best practice as identified in the literature on teaching effectiveness. For example, the ORACLE study, a large-scale observational study of primary school classrooms in the UK, found that there was an overemphasis on whole-class teaching and insufficient differentiation of curriculum, time, and instruction among single-grade teachers (Galton, Simon, & Croll, 1980). The evidence also suggested that cooperative or collaborative group work and peer tutoring were used infrequently by single-grade teachers in heterogeneous classes. Twenty years after the original study, Galton, Hargreaves, Comber, Wall, and Pell (1999)

found that teaching practices had changed little in spite of efforts to encourage them to do so. It is interesting to note that findings from the ORACLE study in the UK (Galton et al., 1980) showed minimal differences between single-grade and multigrade classes in the time that pupils spent working alone.

In sum, it is clear that more similarities than differences exist between multigrade and single-grade teaching and that some of the problems associated with multigrade teaching are similar to those that are associated with single-grade teaching. Solving these problems will require efforts that have common elements as well as specific elements related to the particular contexts.

Effective teacher education is essential in efforts to support and encourage effective teaching practices in single-grade and multigrade settings and in order to help teachers to adopt effective teaching approaches. For teachers to teach effectively, they need to be well trained, well resourced, and feel positive towards teaching, the children that they are required to teach, and themselves as teachers (Veenman & Raemaekers, 1995).

3. *Teacher education and multigrade*

In most teacher education programmes, all teachers are provided with the same courses, without specific support for multigrade teaching (Birch & Lally, 1995). In addition, many multigrade schools, especially in developing countries, are poorly resourced and the attitudes of teachers themselves, administrators, parents and pupils towards multigrade teaching are often negative. Inservice education, when it is provided, is often of poor quality with inadequate supports and follow up available to teachers. There is a clear need to address both the education and support of multigrade teachers if multigrade teaching is to be a viable option in attempts to provide quality education in this teaching and learning context.

3.1. *Concerns about the quality of teacher education*

In many countries at the present time, difficulties are being experienced by the teaching profession (OECD, 2002). In some countries the public image of teachers and the relatively high status, which teachers held traditionally, is in decline. In addition, difficulties are being experienced in recruiting and retaining teachers. The relative decline in teachers'

salaries, the ageing teaching workforce, declining working conditions and reduced morale are some other factors that are giving cause for concern and that are presenting a major dilemma for policy-makers (Coolahan, 2003).

Problems have also been identified in relation to the quality of teacher education. Not all graduates that emerge from teacher education programmes become great teachers, and critiques of teaching quality consistently blame teacher education programmes for poor teaching performance. Numerous reviews of teacher education (e.g., Australian Council of Deans of Education (ACDE), 1998; Carnegie Corporation of New York, 1986; Darling-Hammond, 1997; DES, 2002; Holmes Group, 1986; Ramsey, 2000; Scottish Executive, 2001), and teacher educators themselves, admit to significant shortcomings in provision for teacher education. Fragmentation and lack of coherence (Gore, 2001; Tom, 1997), a relatively weak knowledge base and paradigmatic differences (Puk & Haines, 1999; Zeichner & Gore, 1990; Zeichner & Tabachnick, 1981) have been identified as some of the weaknesses of teacher education.

It is commonly held that if teacher education programmes were improved, the quality of teaching would be likely to improve also (Gore, Griffiths, & Ladwig, 2004). Given the central role of the teacher in determining the nature and quality of the education that children receive, it is of the utmost importance to ensure that teacher education is of the highest possible quality. In 2002, the Ministers of Education of OECD countries focused on teacher education as an area of major policy concern (OECD, 2002). Among the objectives set out recently by the Council of the European Union (2002) for education and training in Europe was that of “improving education and training for teachers and trainers.”

3.2. *Perspectives on teacher education*

Different perspectives and perceptions about teaching and teacher education have been influential at different times in history in determining the nature and content of initial teacher education courses. However, there appears to be a growing consensus that teacher education needs to be broadly based rather than narrowly based. It needs to focus on educating teachers in the broad sense rather than merely training them in a narrow sense.

Cochran-Smith (2001) identified four “major questions” that have driven teacher education in

the USA over the past 50 years: the attributes question (i.e., what are the attributes and qualities of good teachers); the effectiveness question (i.e., what teaching strategies and approaches are most effective); the knowledge question (i.e., what knowledge should teachers have in order to be able to teach effectively?); and the outcomes question (i.e., what should the outcomes of teacher education be for teacher learning, professional practice and student learning?). These questions have been reflected in many teacher education programmes both in the USA and beyond. They are not always explicit, but tend to inform the conceptual orientation or ideologies underlying the programmes. Cochran-Smith argues that the outcomes question is driving education at the present time. However, there is no consensus about this question. It is interpreted in different ways depending on context.

On the basis of their analysis of various models of teacher education (e.g., Demailly, 1991; Develay, 1994; Ferry, 1983; Feimen-Nemser, 1990; Furio, 1994; Kirk, 1986; Martin del Pozo, 1994; Perez Gomez, 1992; Porlan & Rivero, 1998; Zeichner & Liston, 1990) Ariza, del Pozo, and Toscano (2002) came up with three models of teacher education, the first two which relate to the “knowledge” question as identified by Cochran-Smith. The first model is based on the “primacy of academic knowledge” in which the relevant knowledge for teaching is considered to be knowledge of the discipline itself. The second model is a model, which is “based on the primacy of technological knowledge.” This model views teaching as a technology with teachers having to develop functional knowledge. This knowledge consists mainly of specific skills, which allows the teacher to function effectively. The third and final model is one, which “is based on the primacy of phenomenological knowledge.” This view holds that authentic professional knowledge “is inferred from reality and achieved through experience.” (p. 4). Arizo et al. recognise the shortcomings of all three models and suggest that the different types of knowledge can be integrated in the epistemological field of “practise.”

The model of teacher education which equates teacher education with the development of technical knowledge and skills is one which does not find much support among educators at the present time in discussions on quality teacher education provision, although it frequently appeals to policy-makers. The Australian Council of Deans of Education (ACDE), 1998, in its discussions on

“best” practice in initial teacher education argues against technicist, uncritical, unreflective training approaches and recognises the complex professional tasks for which teachers need to be prepared. If high-quality teacher education is to be provided and if the professional status of teachers is to be raised, teacher education needs to be “innovative”, “rigorous”, and “comprehensive.”

Korthagen (2001) also challenges what he calls the “technical-rationality” model of teacher education and the consequent separation of theory and practice. He argues for a model of teacher education that integrates theory and practice and that focuses on preparing good teachers who understand themselves as teachers rather than teachers who “know” a lot about teaching. He accepts that it is impossible to prepare teachers for every eventuality in the classroom. Therefore teachers need, not just technical competence in teaching but “both *starting competence* and *growth competence*.”

Burke (1992) identified three stages through which occupations, including medicine, have evolved towards professional competence and draws a parallel between these occupations and the teaching profession. The first stage, Burke suggests, is that of the craftsman or technician whose work is determined by “tricks of the trade” or rules and/or procedures that have been passed down from one generation to another. The next stage, he suggests, involves a more rational and scientific approach in which a guiding theory is sought and used to determine the nature of practice. Finally, the profession evolves to a stage in which there is “an increasing conceptualisation” and a growing recognition and use of knowledge that comes from other disciplines. Like Korthagen (2001), Burke argues that, given the knowledge base that now exists in education and teaching, the teaching profession needs to move beyond the narrow technical perception of the teaching role and this needs to be reflected in teacher education programmes.

The Holmes Group (1986) perceives teacher education as being about creating “fully competent professional teachers” and it highlights the importance of “professional knowledge” in teacher education. An important role of teacher education involves empowering teachers to make principled judgements about their pupils’ learning and welfare. To do this they need a good understanding of child development, the subjects that they teach and ways to promote effective learning and growth. They

need to think critically and to help their pupils to do so. They need to acquire the skills and competencies to deal with pupils’ difficulties and setbacks. Teachers’ knowledge includes academic knowledge and knowledge gleaned from practical experiences in classrooms. Pupil learning is the main focus of teaching and schooling and the competent teacher finds ways to meet individual needs and cater for the needs of “at risk” students competently (Holmes, 1986).

The perspective promulgated by the Holmes Group (1986) is reflected also in the work others including, Howey and Strom (1987), Berliner (1984), Shulman (1986), and Fenstermacher (1980). These highlight the need for teacher education programmes to educate teachers to be flexible and adaptable problems solvers who can adapt to different settings and circumstances and accommodate change and development within the context in which they teach. Howey and Strom (1987) argue that teachers need to become reflective decision makers who have the mental tools that they need to become and remain adaptive, questioning, critical, inventive, creative, and self reviewing.

There is also a need for teacher education programmes to assist student teachers in developing awareness of the philosophies underlying practice as well as developing skill in the practices themselves (Burke 1992). The way in which the educational system, and the schools and classes within it, are structured, together with the approaches and practices within schools and classrooms, imply a certain way of perceiving mankind and the world. They also reflect a vision of the nature of society and what the individual can become through the process of education (Burke, 1992). No practice in education is value free nor is any teacher education programme value free. It is no surprise, therefore, that educational systems, and the schools within them, differ across contexts and that the characteristics and practices of teachers also differ. Often, the underlying philosophy goes unnoticed, unrecognised, and unquestioned resulting in the adherence to traditional practices without an understanding of their rationale. Teachers need knowledge about the context of schooling and the context in which they operate.

The different perspectives summarised here reflect a perception of teaching as a complex activity that involves more than the mere technical skill of imparting knowledge. The teacher needs to be a professional, competent, and creative individual

who is flexible and adaptable as well informed and skilled. Teacher education programmes need to reflect this fact.

In designing and implementing teacher education policies and programmes, cognisance needs to be taken of the different contexts and settings in which teaching takes place. Preparing teachers to deal with diversity of pupil characteristics and needs in various contexts, including in large and small classes, in same grade and in multigrade settings, in rural and urban settings, in disadvantaged or more advantaged settings, with single or mixed ethnic groups, is a tall order for teacher educators. Yet, encountering such diversity is likely to be part of the experience of most teachers at some point in the course of their teaching careers.

It is unlikely that any initial teacher education programme will succeed in preparing teachers for all the eventualities that may occur in the course of their teaching careers. It is also unlikely that any initial teacher education course can provide teachers with all the skills and competencies that they will need to function effectively in more specialised teaching contexts throughout their teaching life. Ongoing teacher education and support is likely to be needed to enable teachers to deal with these specific situations.

3.3. The content of teacher education programmes that include preparation for multigrade teaching

Phillips et al. (1995) identified 125 maxims of outstanding teachers of multigrade classes in a study that involved interviewing teachers and observing in multigrade classes. Study findings showed that multigrade teaching was not qualitatively different from single-grade teaching. However the results of the study showed that effective multigrade teaching requires “a heightened expression of some of the most demanding skills a teacher develops” (p. 28). Effective multigrade teachers showed a high level of skill in areas in which the single-grade teacher would also be expected to be skilful. That the skills needed to teach effectively in a multigrade class are similar to those that are needed to teach effectively in a single-grade class is a point also made by Pratt and Treacy (1986) and Miller (1991).

In a study of the characteristics and needs of multigrade teachers in British Columbia (Bandy, 1980), school principals considered that the ability of teachers to plan and organise their work was the most important factor for success in the multigrade

context. Teachers felt the need to have experience in a multigrade setting during their initial teacher education programme and for support in developing skills in curriculum development, class organisation and individualised instruction. They also felt the need for support in sourcing relevant resources and materials. Thomas and Shaw (1992) suggest that teacher education programmes for multigrade need to focus on effective teaching practices including: “peer tutoring, self-directed learning, teacher preparation (planning, organisation, and delivery methods), maintenance of an orderly environment, and assessment and feedback skills” (p. 27). Teachers also need to be helped to use classroom materials effectively, to layout their classroom and group their pupils appropriately.

A study by Marland (2004) of the views of 349 multigrade teachers identified the following areas as those for which the multigrade teacher needs training and support: the promotion of student independence in work habits, the use of instructional resources, curriculum planning, individualisation of instruction, time-tabling and time management, teaching strategies, and student assessment.

The findings of a study, which examined various aspects of two-grade multigrade teaching in Virginia USA (OERI, 1990), identified 102 strategies that teachers found effective in multigrade classes. These strategies were grouped into the following categories listed in order of frequency of response: classroom management, time management, grouping, parent relationships, getting started, and socialisation. Teachers considered that the management practices that are effective in single-grade classes are similar to those that are effective in multigrade classes. Time-management strategies mentioned by teachers included integrating content and activities for the different grade levels where possible, providing independent learning activities for one group while instructing the other, grading work in class and giving immediate feedback. Teachers agreed that grouping was essential for meeting the needs of students. Ability grouping, cooperative grouping, cross-grade and peer tutoring were mentioned as essential strategies in multigrade classes. Using teaching aides or parent volunteers to assist with groups in the classroom was also mentioned by some teachers. Teachers highlighted the importance of cultivating and maintaining good parent–teacher relations. The importance of knowing how to “get started” with a multigrade class was also acknowledged by teachers. Teachers need to

know how to set about preparing for their multigrade class and how to get going in the classroom. Finally, teachers highlighted the importance of socialisation in the context of multigrade teaching. Teachers mentioned the need to establish a “family bonding” attitude and promote a sense of unity in the class. They recommended mixed seating arrangements, whole-class experiences built into lessons, an impartial behaviour management system, and regular contact with other classes.

Veenman, Lem, and Roelofs (1989) describe a research-based staff development programme for multigrade Dutch teachers that included inputs on instructional time, effective instruction, classroom management and organisation, independent learning, and school climate and leadership. The input on instructional time highlighted the importance of effective use of classroom time and encouraged teachers to use strategies to help pupils to stay on-task. This was regarded as central to success in a multigrade class in which classroom organisation is more complex and lower levels of time-on-task may be experienced. The input on effective teaching was aimed at supporting teachers to design lessons so that pupil learning is maximised and best use is made of limited instructional time. The classroom management and organisation component of the programme focused on establishing a productive working environment in the specific context of multigrade. Given that pupils in multigrade classes generally spend more time on independent seatwork than pupils in single-grade classes, the independent learning component of the programme focused on instructional procedures to increase pupil involvement during seatwork. The final component of the course, school climate and school leadership, highlighted the importance of “co-operation, collegiality, shared values and norms and instructional school leadership” (p. 169).

Birch and Lally (1995) describe the concerns addressed during inservice provision for multigrade in the Asia-Pacific region as follows: Introduction to the theory and practice of multigrade teaching; lesson planning for the multigrade school; curriculum resources for multigrade; classroom management for multigrade; assessment and evaluation in multigrade classes; administrative strategies in the multigrade school; morality and values for the teacher in the multigrade school; and community—school relationships. They suggest the following framework for teacher education for multigrade. It is a framework that takes for granted that teachers

are already competent in subject matter content. The framework would provide modules on the psychological and philosophical bases to multigrade teaching; the school context; curriculum development; teaching strategies; classroom management; resource development; evaluation; coping strategies; and continuing multigrade education.

The content outlined by Birch and Lally (1995) is similar to that of other programmes that have been developed for the preparation of multigrade teachers (e.g., Barsaga & Lacuesta, 1998; Basic Primary Education Project, 2000; Collingwood, 1991; Commonwealth Secretariat, 2004; Miller, 1989; Vincent & Ley, 1999). Vincent and Ley (1999), in their handbooks for multigrade teachers, identified six “key variables” affecting multigrade teaching. These are: classroom organisation, classroom management and discipline, instructional organisation and curriculum, instructional delivery and grouping, self-directed learning, and peer tutoring.

3.4. A categorisation of content needing heightened emphasis in teacher education for multigrade

As will be seen from the above, studies carried out in different contexts and programmes of support for multigrade teachers developed in different settings converge to a high degree in terms of those areas of knowledge and skill that are considered as most relevant to the work of multigrade teachers. From a detailed examination of the research findings summarised here and the content of extant programmes designed for the preparation of multigrade teachers, it is possible to identify a number of areas that could be considered for “heightened emphasis” in the context of preparing teachers to teach in multigrade classes. The following areas are offered as a tentative list of topics that, while comprising elements of general teacher education programmes, could be added to or extended to include direct applications to the multigrade setting:

- curriculum development and planning;
- classroom organisation and layout;
- selection and use of appropriate materials and resources;
- selection and use of a variety of appropriate teaching strategies;
- effective time management;
- classroom management and discipline;
- assessment and evaluation;
- parent and community relationships.

Table 2

Teacher Training for Multigrade: Areas Considered as Needing Special Emphasis in the Context of the Preparation of Teachers for Multigrade Teaching

Content categories for multigrade teacher training	Goals to be achieved under each of the content categories
	To enable teachers to:
Rationale for Multigrade Teaching (i.e., multigrade teaching in context)	Understand and appreciate the nature and characteristics of multigrade teaching Understand the potential opportunities and challenges of multigrade teaching
Curriculum development and planning (i.e., the selection of appropriate learning content for each grade level and the planning of lessons appropriate to the needs and level of each grade level and pupil)	Make appropriate content selection based on the curriculum Plan and organise their work on a long-term and short-term basis Prepare and plan educational activities for pupils
Classroom organisation and layout (i.e., organising the classroom as a good learning environment that is easily accessible to pupils and teacher)	Lay out their classrooms effectively so that an environment conducive to effective teaching and learning is created Organise resources and materials for easy accessibility and usage
The selection and use of appropriate materials and resources	Source and acquire relevant and appropriate teaching and learning resources Use available resources effectively in efforts to bring about effective pupil learning Create and use self-learning materials (i.e., materials from which pupils can learn by themselves) where appropriate
The selection and use of a variety of appropriate teaching strategies	Become aware of the need to use a variety of teaching approaches and methods in the context of teaching in multigrade Make appropriate choices in relation to teaching approaches and strategies Promote student independence in work habits Encourage self-directed learning among students in their classroom Group pupils effectively across and within grade levels according to pupil needs and the demands of curriculum content Use tutoring across and within grade levels as one means of meeting pupil needs Cater for the socialisation needs of pupils as well as the academic Provide individualised support for pupils when needed
Effective time management	Become aware of the need to use time effectively by planning teaching and learning so that pupils are purposefully engaged at all times in class Create realistic and useful timetables Organise their work so that all grade levels are engaged in relevant work throughout the school day
Classroom management and discipline	Create and maintain an orderly classroom environment Develop a positive classroom environment Use disciplinary techniques that maintain order while maintaining pupil interest and engagement on academic tasks Create classroom schedules and routines that are predictable and clear to pupils Encourage pupils to be responsible for their own learning

Table 2 (continued)

Content categories for multigrade teacher training	Goals to be achieved under each of the content categories
Assessment and evaluation	<p>Develop skills in monitoring, assessing, and evaluating pupil achievement and learning</p> <p>Develop an effective system for continuous evaluation and assessment</p> <p>Provide useful and quality feedback to pupils about their learning</p> <p>Use the results of assessments to provide for the needs of pupils</p> <p>Keep useful and helpful records of pupil progress</p>
Parent and community relationships	<p>Seek and maintain community support</p> <p>Develop good relationships and connections with parents and with the local community</p> <p>Reflect the morality and values of the community in the school</p>

All of these areas are relevant to the work of teachers generally and need to be included in general teacher education programmes. Preparation of teachers needs to involve specific applications being made to the multigrade setting in each case.

Table 2 provides a listing of the eight areas identified above. A list of associated goals have been added, based on the focus and content of existing programmes, study findings, and programme recommendations described earlier. This categorisation and corresponding goals is suggested as a starting point to be considered in the process of adapting extant teacher education programmes to provide for the needs of multigrade teachers, in cases in which this is not already happening, while at the same time obviating the need for separate programmes. It might also serve as guide in the creation of new programmes at preservice or in-career level. An additional category—rationale for multigrade teaching—has been added. Content in this category is included in order to provide essential background information about multigrade teaching, its underlying philosophy, opportunities and challenges.

It is not claimed that this categorisation and associated goals provides a comprehensive “blueprint” for teacher education programmes that accommodate the needs of multigrade teachers, nor is it the only possible categorisation of relevant content. However, the available evidence does suggest that multigrade teachers need support in all of these areas. It also needs to be acknowledged that the content areas outlined constitute only part of an initial teacher education programme for multigrade. As indicated earlier, quality initial

teacher education needs to be broad-based, moving beyond the narrow technical perception of the teaching role and the technical model of teacher education that gives precedence to teaching “skills.” Teacher education is about creating teachers who can make principled judgements about their pupils’ learning and welfare (Holmes Group, 1986) and who are able to promote effective learning and growth in their pupils.

4. Discussion

There is a need to emphasise the common elements of single-grade and multigrade teaching in the context of teacher education at preservice and in-career level. The effective multigrade teacher must first of all be an effective teacher in the general sense. Multigrade teachers do not need separate teacher education programmes from single-grade teachers. They can be prepared along with their single-grade counterparts. The specific skills that multigrade teachers need to learn can be dealt with in the context of more general teacher education where specific applications to the multigrade setting are made. This can be justified by reference to the relatively high proportion of multigrade classes that exist in most countries throughout the world. Single-grade teachers can also benefit from exposure to material that is specifically relevant to multigrade teaching.

In the course of their careers, teachers may be required to, or choose to, move between multigrade and single-grade contexts just as they may move from grade to grade within schools and between rural and urban settings. They need to be prepared for these

eventualities. Teacher education programmes usually aim at preparing teachers to teach at all levels of the primary school. Preparing them also to deal with two or more grade levels should not be a significant leap for either teacher or students.

It is clear that all single-grade contexts are not the same. In the same way, multigrade contexts can differ from one another. Diversity of types of multigrade classes needs to be acknowledged in the context of preparing and supporting multigrade teachers. Factors such as class size, the number of grade levels in the classroom, the age of pupils, the size and location of the school and the amount of resources and support available also need to be taken into consideration in the preparation and support of multigrade teachers. Cultural differences must also be taken into account (Thomas & Shaw, 1992).

It is often the case that teacher trainees have not experienced multigrade teaching. This makes training for multigrade more complicated (Birch & Lally, 1995). There is a need for initial teacher education programmes to include practice in multigrade teaching for students. Another related problem to be faced in the context of training teachers for multigrade is the problem of finding teacher trainers who, themselves, are familiar with or experienced in multigrade teaching.

Multigrade teaching in developing countries is generally more complex than multigrade in more developed countries (Miller, 1991). Most of the differences centre round financial, geographic, and demographic issues. For example, classes tend to be large and teachers few, teachers are untrained or inadequately trained, resources and materials are scarce, there is a lack of flexibility in relation to curriculum that constrains multigrade teaching, and teachers frequently lack incentives. Generally, as in the case of many more developed countries, multigrade teachers do not receive any special training during their initial training programme. There is a danger that in the effort to service the ever-growing number of multigrade schools that the “quick fix” often manifested in a technical “tricks of the trade” emphasis will predominate. An overemphasis on the techniques and skills of teaching is likely to lead to the promotion of uncritical, unreflective teaching and a failure to appreciate and acknowledge the complex professional tasks for which teachers need to be prepared (Australian Council of Deans of Education (ACDE), 1998).

In developing countries where many teachers are untrained or poorly trained, in-career programmes

may need to compensate for the lack of appropriate training by both filling the gaps that have been created by the absence of quality initial training and by providing preparation in the areas that are of specific concern in the multigrade context. If multigrade is to be taken seriously as a means of providing quality education, adequate resources need to be allocated to the development and delivery of quality teacher education programmes, at both initial and in-career level.

5. Conclusion

Teaching is a complex activity that involves more than the mere transmission of knowledge to pupils. Teaching is multifaceted and multidimensional (Good & Brophy, 2003) and teachers need to be prepared and supported in operating effectively in classrooms and schools. All teaching situations and contexts are not the same, even within schools, and it is important to avoid wide generalisations that serve to categorise all teaching in similar contexts in the same way.

Multigrade schooling is clearly a viable alternative for the provision of education in a range of contexts in developing and more developed countries. The research suggests that they can be an effective and cost-effective means of providing quality education (Benveniste & McEwan, 2000). Quality teacher education and support is needed to ensure that the potential of multigrade teaching is realised. The teacher is the most important determinant of quality learning in the classroom. If such a high degree of responsibility is to be given to teachers and such high expectations of them are held, it is important that they are treated in a professional way, both in the context of their education and in the context of their support in the context of their work. Competent motivated teachers who feel good about themselves as teachers and about their pupils as learners are the teachers who are most likely to promote high standards in schools and ultimately contribute to the development and enhancement of the societies in which they work. Investment in teachers and in their education, both from a fiscal and time point of view, is both worthwhile and necessary in today's world.

There is a need for research and the sharing of information about the success of extant teacher education programmes. Given the limited resources of many countries for the education and support of teachers, research from wealthier countries needs to

be conducted and shared in order to avoid costly mistakes. Cultural differences need to be acknowledged and applications must not be made without necessary adaptations being made by those with expertise within their own educational system.

Initial teacher education is inevitably limited in the degree to which it can prepare teachers, single-grade or multigrade, for all eventualities. However, good initial teacher education programmes can introduce teachers to important aspects of the available knowledge base that will enable them to make informed judgements about the welfare and learning of their pupils. Teachers can be helped to be adaptable and to apply their learning in different contexts. Multigrade teachers will need ongoing support in those areas, which are specific to their context.

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